# Studying Nature In Her Home

By John Dickinson Sherman

The American School of Wild Life Protection and Propagation in the future Mississippi Valley National Park

THE American School of Wild Life Protection and Propagation at McGregor, Iowa—the region of the proposed Mississippi Valley National park—is the outward and visible sign of an inward and spiritual desire to give the study and knowledge of nature its rightful place in our twentieth century scheme of life.

The American people are a nation of lovers of the beautiful in nature. The national park movement, with an army of enthusiasts behind it, is one of the livest causes of the times. That is why we have established since 1872, when the first national park in the world, the Yellowstone, was created, a system of nineteen national parks and thirty-five national monuments.

Yet it is true beyond question that in general the hundreds of thousands of yearly visitors to our beauty spots of nature thrill with an emotion that is quite apart from understanding of the scene before them. America has the noblest scenic magnificence that is easily accessible in all the world. And among the greatest of its manifold values is the fact that it is the record of America in its making. An appreciation of this magnificence and its values will add to its enjoyment.

To gain this understanding and appreciation is one of the several motives impelling the activities of the School of Wild Life Protection and Propagation at McGregor.

The American frontier is no more. Gone are the buffalo herds that covered the great plains. Extinct is the passenger pigeon. Civilization and wild life cannot exist together. The automobile takes the tourist everywhere. The airplane means the end of the silent places. In a few years the American will have to go to his national parks to see the wild animal life of his native land in its natural surroundings. For the national park is the one sure wild life sanctuary of earth—the one and only place where wild life is sufficiently free from molestation to hold its own against man and civilization.

So, to protect and propagate wild life by keeping inviolate the national parks and by establishing more national parks is another purpose exemplified in the American school in the area proposed for the Mississippi Valley National park.

This proposed national park lies in the northeast corner of Iowa and the southwest corner of Wisconsin. The Mississippi divides it; the Wisconsin and Yellow empty into the Mississippi from the east and west within the boundaries. About 15,000 acres, land and water, including 4,000 acres of Mississippi with islands, are under consideration. There are 1,671 acres in the Wisconsin State park at the mouth of the Wisconsin. Mrs. Martha B. Munn of New York has offered to give the 125 Iowa acres forming the scenic keystone. It is proposed that the federal government shall purchase for park purposes about 9,000 acres appraised at about $224,000.

Scenically, educationally and historically the area is worthy of national park honors. Geographically the area is just the place for a national park. There is no scenic national park worthy of the name between Rocky Mountain in Colorado and Lafayette in Maine. Railroads and transcontinental automobile highways run close by. There is river transportation. Big cities surround the site. Fully 20,000,000 people are within a few hours of the area.

The Mississippi Valley National park project in all its ramifications is backed by the General Federation of Women's Clubs, the Mississippi Valley association and a long list of organizations of large variety.

The attitude of the General Federation of Women's Clubs is typical. The work of this nation-wide organization with a membership of 2,500,000 is carried on through a dozen or more departments. One of the most important of these is the department of conservation, which promotes the use without abuse of the natural resources of the United States.

At the biennial convention of the General Federation this summer in Des Moines, Iowa, one day was largely devoted to conservation. In the morning, in the convention, Mrs. John Dickinson Sherman, chairman of the conservation department, made her report and spoke on "The Conservation Outlook." She called attention to the fact that the natural scenery division of work, created by her to the department six years ago, was then considered as of little importance, natural scenery not being ranked as a natural resource of value; now natural scenery was recognized as a great national asset and the natural scenery division was the most popular in the department. George H Maxwell, executive director of the National Reclamation association, delivered an address on "Our Conservation Problem."

Next was a "Natural Scenery Luncheon," in honor of Director Stephen T. Mather of the National Park service of the department of interior, in charge of Mrs. Charles H. McNider, chairman of the natural scenery division, attended by more than 250 delegates. Mrs. Sherman presided. She said, in brief, that any constructive work that advances the use, development and preservation of our natural resources must necessarily be based on accurate information and careful study of conditions. A practical, comprehensive study of natural science and nature would lay a foundation for an understanding and an appreciation of our natural resources. The children of today should be given the opportunity to gain a first-hand, intimate and scientific knowledge of the earth, her products, of nature's bounty and nature's ways.

Director Mather outlined the activities of the national park service; asked the federated club women to urge upon members of congress the necessity of larger national park appropriations. He laid special emphasis upon the educational mission of the national parks. He would promote by every possible means the interpretation of the natural sciences which are illustrated by the scenic features, flora and fauna of the national parks, encourage the popular study of their history, exploration, tradition and folklore and improve every opportunity for the protection and propagation of bird and wild animal life

Dr. L. H. Pammel of Iowa State college, chairman of the Iowa state conservation board, spoke in behalf of the Mississippi Valley National park project. He set forth the many and varied attractions of the region. He emphasized the fact that 20,000,000 people lived within a radius of 500 miles and that 85 per cent of the people can not travel to the national parks of the scenic West for vacations. The Northern Mississippi Valley congress was of the unanimous opinion that a series of national parks should be established in the Mississippi valley. He appealed to Director Mather to give the Mississippi Valley National park project impartial consideration.

In the afternoon the conservation conference was held in the auditorium. The program included addresses by Col. W. B. Greeley, head of the forest service, and Russell T. Edwards of the American Forestry association.

An interesting and important feature was "Natural Scenery—Iowa's Program," by Mrs. McNider and Mrs. Francis E. Whitley, past president of the Iowa Federation of Women's Clubs. Iowa is one of the most progressive states in the conservation of natural beauty spots. Its people have surveyed the state and have recommended more than fifty scenic areas for state and county parks

Dr. B. Schimek of the University of Iowa made an eloquent address on "Moral and Spiritual Aspects of Conservation." This is a large subject.

National park enthusiasts believe that recreation amid scenes of natural beauty is the best antidote for the manifold evils of our complex modern civilization.

All these things, you see, lead up directly to the American school and its work.

This is the second summer of the American School of Wild Life Protection and Propagation. The Iowa Conservation association met at McGregor in 1919 and out of it developed the school. This year it was of larger scope and greater significance. The purpose is to bring instructor and student into close touch relative to the subjects for which illustration is furnished by the environment. The students were of all walks of life and of all ages.

The patrons of the school were Dr. E. A. Birge, president Wisconsin university; Dr. W. T. Hornaday, New York Zoological gardens; Dr. W. A. Jessup, president Iowa State university; Enos A. Mills, Longs Peak, Colo.; Dr. T. S. Palmer, secretary A. O. U., Washington, D. C.; T. Gilbert Pearson, National Association of Audubon Societies. The directors were: Fred G. Bell, F. S. Richards, T. A. Payne, T. J. Sullivan and L. P. Bickel.

The departments and instructors were: Geology Dr. George F. Kay, dean of the liberal arts college of Iowa State university; Iowa parks, Dr. L. H. Pammel of Iowa State college, chairman of the state conservation board; botany, Dr. Bohumil Shimek of the Iowa State university; archeology Prof. Charles R. Keyes of Cornell college; ornithology, Rev. Leroy Titus Weeks, rector of Trinity church, Emmetsburg. The fee was nominal, $2. George Bennett was secretary and registrar; Karl D. Bickel, treasurer of student fees; Logan Blizzard, committee chairman. Committees with the following chairmen handled all arrangements; roads, T. J. Sullivan; music, Mrs. Otkin; finance, F. S. Richards; meals and lodging, Logan Blizzard; grounds, Fred G. Bell; tents and cottages, William Meyers; boats, Frank Sloane; automobiles, Al Clemens; signs, John Kramer; reception and information, Fred Philips.

The activities of the school were varied and enjoyable. In addition to the class work and matters of routine instruction there was a river trip on a big steamer; many addresses and stereopticon lectures, picnic luncheons; a community supper; music by the McGregor band; a union service; a formal opening and a general conference on the closing day.

Gov. W. L. Harding of Iowa, to further the Mississippi Valley National park project, called a conference of those most active in its promotion. The conference was held at La Crosse. Among those present from Iowa were: Governor Harding, State Senator Newberry, Assemblyman Becker, Doctor Paramel, Joseph Kelso, J. F. Ford, W. L. Albert, P. C. Bell, Logan Blizzard, John Kramer, C. A. Luce, J. M. Berry, G. Pederson, C. A. Spinner, B. Hendrick, G. W. Eaton, Julius Boeck, Florence Clark, Mrs. F. C. Bell, Mrs. Logan Blizzard and Mrs. C. A. Luce. Minnesota was represented by D. Lange, president of the state forestry association. Frank D. Lowman, superintendent of parks, represented Illinois. Among those present from Wisconsin were Congressman John J. Esch, Alderman Funk of La Crosse, C. L. Harrington of the conservation commission and Judge J. H. Long.

Governor Harding presided and Mr. Harrington acted as secretary. An executive committee was appointed, consisting of Governor Harding, chairman; Mr. Harrington, secretary; Mr. Lange and Mr. Lowman. All state organizations will unite in promoting the establishment by congress of a national reservation in the scenic area under consideration.

In a conference of Governor Harding, Director Mather, Doctor Pammel and W. F. Bickel arrangements were made to have Chairman Good and other members of the house appropriations committee visit the area which a large part of the Mississippi valley hopes will be made the Mississippi Valley National park.

# HEAVY LOSS OF SUGAR STOPPED

### Chemists Perfect Process of Protecting Raw Product From Mold and Bacteria.

### PREY ON SWEETENING FACTOR

**At Least $1,500,000 Worth of Sugar Destroyed Yearly by Tiny, Greedy Organisms—,000,000 Pounds Is Estimate.**

Chicago, Ill.—More sugar will be available for everybody through the discovery of a process of keeping it from being injured by molds and bacteria.

Fully one per cent of the Cuban crop, or about 70,000,000 pounds of sugar a year and worth at least $1,500,000, it is estimated, has been destroyed by the tiny, greedy organisms which compete with the sweet tooth of mankind. As the per capita consumption of sugar in the United States is approximately $1.84 pounds annually the amount hitherto consumed by the 573,000 persons for a twelve month period. This would keep the sugar bowls of a large city full. Counting each family as five persons, 175,000 of such groups could be kept sweet tempered during this period from the supply which has been wasted by the invisible hordes.

Mr. Nicholas Kopeloff and Mrs. Lillian Kopeloff, bacteriologist and assistant bacteriologist at the Louisiana sugar experiment station in New Orleans, and members of the American Chemical society, have just completed a bulletin on the method of preventing the molds and bacteria from wresting sweet solace of the beet and cane from mortals.

**Loses Sweetness.**

Sugar loses its sweetness because molds consume the sucrose, which is its sweetening factor. Although the amount thus lost may be only a fraction of one per cent, and far too slight to be detected by the senses of taste or smell in many cases, it is easily determined by the polariscope, an instrument especially designed for measuring the amount of sucrose present. When sugar deteriorates not only does the polariscope detect the differences, but anyone who is sufficiently observant will note that it will actually take a larger spoonful to give the same sweetening power. Thus, if a barrel of raw sugar should be kept through the summer months and it is infected with harmful micro-organisms, it might be necessary to use an extra half-spoonful at the end of the summer to get the same sweetening power that could be obtained before deterioration took place. As all sugar is sold strictly on the polariscope basis, even small losses aggregate huge sums.

The usual source of these molds is the air, which contains millions of micro-organisms at rest and in circulation. Each individual mold, if it falls on an object which can supply it with sufficient food, such as sugar, can reproduce 300,000 more individuals of the same species in less than a week. This reproduction, however, can only take place in the presence of sufficient moisture, otherwise the organisms lie dormant. Cane sugar primarily undergoes such losses by deterioration in transportation or storage, mainly due to the absorption of moisture by sugar in damp weather or humid climates.

For example, sugars made in Cuba are stored in the hold of a vessel, often with insufficient ventilation, which causes them to "sweat." While coming from a tropical climate into cooler water the moisture condenses on the surface of the sugar. This also occurs when sugar is stored for any length of time, especially at high temperature, as in refineries, where some is melted up at once and the remainder is held in storage for varying periods, as dictated by business needs.

**Can Be Prevented.**

Having identified the injurious micro-organisms, Doctor and Mrs. Kopeloff developed a method by which the quality of a given sugar might be determined in this respect. By simply consulting a chart after a preliminary analysis, one may now find out whether or not a given sugar will deteriorate or lose its sweetness in storage. The sugars which are unsafe to keep may be melted up first, the sounder sugars being held in storage with safety.

Doctor and Mrs. Kopeloff, by making bacteriological examinations at every stage of the sugar-making process, have found that sugar deterioration can be prevented by substituting dry or super-heated steam or water in the final process of washing sugar in the drums in which sugar is dried. These centrifugals, as they are called, in their whirling suck up air from the floor which may be contaminated with germs. Also, it is common practice to make the color of the sugar lighter by washing the crystals with water, which may be contaminated with molds and bacteria.

In the new process, it is shown that dry steam is successful in killing over 99 per cent of these avid molds and bacteria.

While the practice of steaming sugars is not a new one, the results are shown to have a direct practical value in eliminating losses which have been a considerable factor in the American bill for sweets.

### He Wouldn't Stop Work for Wedding.

Detroit.—Devotion to duty prevented Nicholas Alexander, cook, from taking an hour off to get married.

His fiancee, Isabelle M. Sahaycaw, applied at the county clerk's office for a marriage license and, in response to the clerk's question as to why the bridegroom-to-be had not come, she said Nicholas was too busy.

She said further that they had agreed to marry a year ago, but they had a quarrel and Nicholas tore up the license he had taken out.

After long and mature deliberation Isabelle came to the conclusion that she had been wrong and that if she did not admit it she ran a good chance of losing Nicholas forever.

She went to him in a penitent mood and found him receptive, but on one point he was adamant. He would not leave his work for a minute to get married, and if she wanted to become Lis wife she had to take out the marriage license, engage a minister and bring him to the kitchen where the ceremony was to be performed. They were married.

### Rooster Just Like Mother.

Winsted, Conn.—A yearling Rhode Island Red rooster owned by Elmer Robbins is brooding a number of chickens that weigh from one and a half to two pounds each. The young rooster also fills a mother's role by calling the chicks when he uncovers worms. At night the chickens huddle beneath his wings.

# RADIO GUIDES SHIPS IN FOG

### Finders of Naval Stations On Shore Give Angle, Mathematics Does Rest.

### WAR NECESSITY MOTHERED IT

**Navigator Who Wishes to Know His Latitude and Longitude Sends Out Wireless Message and Listening Stations Give Bearings.**

New York.—Fogs, clouds and storms are losing their terrors for naval men. In the not very distant past a ship that could navigate when the sun was hidden became the subject of wild seafaring tales, but the radio direction finder has eliminated many of the perils due to the absence of the sun. Today a navigator who wishes to know his latitude and longitude has only to send the following wireless message: "This is the (ship's name). Where am I?" And the data supplied by the various listening stations will give him his bearings. The wireless direction finder is not a new device—finders were patented as long ago as 1907—but war developments have emphasized the value of the instrument for general navigation, says a writer in the New York Evening Post.

It consists of a loop of wire attached to receiving machines. When messages are being received the waves set up a current in the two sides of the loop. If the waves strike both sides of the coil equally there is no difference in voltage. But when the waves strike the coil in such a manner that there is a difference in voltage between the two sides of the coil the receiving machines indicate the extent of this difference. By making mathematical calculations based on this difference it is possible to determine the direction of the ship which is sending in relation to the port which is receiving.

In order to locate the ship's position exactly the data from at least two receiving stations must be compared and it is desirable that another station send its data to check the accuracy of the finding.

**War Necessity Mothered It.**

Especial attention was paid to the development of the radio direction finder during the war when many fighting ships found that fog was almost on a par with submarines as a naval menace. Experts thereupon experimented to discover a certain method of giving a ship her "reckoning" when the sun was obscured. The radio direction finder in its most modern form was the result. It is now proving its great usefulness in time of peace.

"Merchantmen are constantly using our stations to find out where they are," said a naval officer. "I should say that for one warship that calls for a bearing there are ten privately owned vessels. Our radio direction-finding stations are really becoming public service institutions."

The navy has erected and is operating stations at the entrance of almost all of the large commercial ports in the country. There are several stations near New York harbor, including Montauk Point, Fire Island, Sandy Hook and Far Rockaway. On clear days the men on duty at these posts have more or less of "sinecures," but on a foggy day they are constantly at work directing ships which have gone astray. All the listening stations transmit their information to headquarters and headquarters tells the skipper where he is.

Some elderly naval men were skeptical about the radio direction finder when the navy department first introduced the device, but one experience with the instrument usually suffices to convince them of its worth. Recently a new destroyer left Norfolk, Va. bound for Newport, R. I., ordinarily no great feat of navigation. However, the compass was new and untried, and the captain and the navigating officer prayed for clear weather.

**It Beats an Erratic Compass.**

Despite their prayers they run into a heavy fog, and from the time they left Cape Henry until they sighted the reef lightship at the entrance to Newport they could see nothing. Nevertheless, the run was made without mishap, owing to the directions sent out by the finding stations, and on landing the officers, who had been skeptical, were converts. It was discovered later that the magnetic compass, by which they would have steered under the old methods might have brought them to grief, for it showed an error of more than ten degrees.

"We are handicapped in extending this work," remarked the naval officer "by lack of personnel. In fact, we've been compelled to close up one or two stations recently owing to a shortage of men. But eventually we hope to have a station at practically every moderately large port—and that I think, will cause making port in fog to be considered a very ordinary and not at all dangerous achievement."

**Just Two Feet to Death.**

Bowling Green, Ky.—Two feet separated Robert Fulton, oil well driller, from death. His employers, a Cincinnati concern, had given up hopes of striking oil and ordered abandonment of the "dry" well. "We'll go two feet further," Fulton said. At the second foot oil was struck, and in the fire which followed Fulton was burned to death.

# CUT HOME WASTE

### Servants Are Responsible for Greater Part of It.

**Investigations in New York Prove That Average Family Throws Away Pound and Half of Good Food Every Day.**

People of average means can hardly afford in these days to keep servants. Households which formerly kept two or three now get along with one maid. Many manage with half a servant, sharing her with a neighbor. Not a few housewives have been driven to the necessity of doing their own cooking and sending the washing to a laundry.

This has meant a great deal of discomfort, but there has been an incidental gain. Waste is enormously reduced.

Servants make nearly all the waste of a household. Many housewives, deprived of "lady help," have been astonished to observe a shrinkage of their food bills, notwithstanding the present doubled and trebled prices.

When a domestic establishment employs half a dozen servants the waste is enormous. Nearly always in a house run on that scale the butler and cook "stand in" with the butcher and grocer, and their rake-off increases with the amount of food they throw away.

Recent investigations by the New York health department proved that the average family living in a private house, with one or more servants, throws away a pound and a quarter of perfectly good food every day.

It was found that the average apartment house family throws away only one-fifth as much—largely, doubtless, because such families reduce domestic service to a minimum.

In the tenement districts of New York one garbage can usually suffices to hold the food refuse of 20 families. But in the "private house districts" it was found that 163 families had 175 garbage pails, or more than a pail apiece.

Examination of the 175 pails revealed 18 pounds of bread and rolls, 50 pounds of meat, 35 pounds of potatoes, 16 pounds of cereals and large quantities of perfectly edible fresh vegetables.

Always the amount of food waste varies directly with the number of servants employed. As a matter of fact, the full garbage pail seems hitherto to have been regarded in this country as a manifestation of prosperity. Not until very recently have people begun to think that possibly this was a foolish idea.

**Mosquitoes and Colors.**

The malaria-carrying mosquito it appears, is attracted by certain colors and repelled by others. Experiments have been conducted in a gauze tent, one end of which was formed by large windows. Into these the sunlight poured on bright days. Large shallow basins were placed on the floor for the mosquitoes to breed in. It was immediately noticed that when a person entered the tent clad in dark gray clothes, the mosquitoes settled on the cloth. When the person who entered was dressed in white flannel, they did not approach him. A number of boxes lined with cloth of various colors were placed in rows upon the floor, and it was noticed that great numbers of mosquitoes entered the box lined with dark blue. Fewer of the insects sought the boxes lined with the other colors, the number diminishing in this order: Dark red, brown, scarlet, black, slate gray, olive green, violet, leaf green, blue, pearl gray, pale green, light blue, ocher, white and orange. No mosquitoes whatever were found in the box lined with yellow.

**Efficiency.**

"Pears like Polk Sawney, that runs the store at the crossroads hain't overly rich with enterprise," commented a citizen of Piddle Creek, Ark. "Other day, frinstance, I went there in the middle of the afternoon to buy a little something, talk a few politics and so forth. When I sa'ntered in nobody was in sight on the place. But after I'd tromped around for a spell a sleepy voice from under the counter snarled:

"'If you're a drummer that aims to sell me something, I don't want it; and if you're a customer that is figgerin' on buying something, why in fury can't you just as well come around some time when I hain't plumb yaw-w-w-wn!—wore out?'"

**The Fastest American Destroyers.**

All American records for speed were broken by the torpedo boat destroyer Satterlee during her standardization firing over the measured mile of Borkland, Me., when she made a mile at the rate of 38.26 knots. The best previous record of 37.04 knots was held by the American destroyers Dent and Wickes. The boat also established a new record in her class for horsepower, developing a maximum of 31,222. The Satterlee, which has been in commission six months, was built by the Newport News Shipbuilding and Dry Dock company.—Scientific American.

**Logical Enough.**

"What is the meaning of the term 'alter ego'?' asked the principal of a preparatory school.

"The other I," was the reply given by a lad generally correct in his recitations.

"Give me a sentence containing the phrase."

"He winked his other I."

**Nonefficiency.**

"Tut, tut," said the fussy old gentleman to a genial panhandler. "I gave you a dime only last week."

"That's right, governor, I know you did, but I couldn't get out of town on a dime, so I'm still lingering in your midst."

**Wrong Epithet.**

Host—I can assure you, this meat is bully.

Ex-Soldier (shuddering)—Don't tell me it's bully beef.

**Philadelphia's Early Day.**

Up to 1720 hunting partridges, doves and pigeons was common in the streets of Philadelphia. Then a law was passed against the practice.

**Word With Many Meanings.**

The term "tonnage" in the shipping business has five meanings, according as it refers to deadweight, cargo, gross, net or displacement tonnage.

If we have not peace within ourselves it is in vain to seek it from outward sources.—Rochefoucauld.

# Handicraft for Boys and Girls

By A. NEELY HALL and DOROTHY PERKINS

(Copyright by A. Neely Hall.)

**A PUSHMOBILE.**

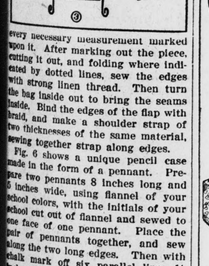
The pushmobile in Fig. 1 is one of the simplest.

If you don't own any wheels, perhaps you can buy some cheaply at a second-hand store, or find a boy with whom you can make a trade for exactly what you want. Get the iron axles, rods, and nuts and washers that belong to the wheels, if possible. In case an axle is missing, or is too short, go to a blacksmith or machinist and get him to thread a piece of rod of the right length.

Figure 5 shows the completed chassis, and Figs. 2, 3 and 4 show details of its construction. Rails A and connecting cross-pieces B and C (Fig. 2)

are pieces of 2-by-4. The length of rails A will be determined by whatever length you wish to have the car, while that of the cross-pieces will be fixed by the length of the wheel axles. Boards D, nailed to the side of rails A, support the hood framework, and cross-piece E, is a footrest.

If the front and rear wheels are of equal diameter, wooden axles F and G (Figs. 3 and 4) can be of equal thickness; use pieces of 2-by-4. Fasten the iron axles to the wooden axles

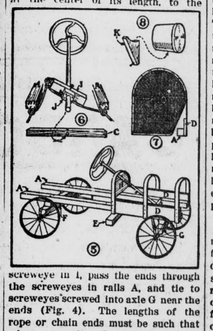


either with staples or bent-over nails. Buy a carriage-bolt long enough to extend through wooden axle G and through cross-piece C (Figs. 2 and 4), for a king-bolt, and with this pivot the front wheels to the front of the chassis.

The hood framework is made of barrel-hoops (Fig. 5); nail the ends of the hoops to side boards D, as shown.

A sewing-machine wheel or wagon wheel may be used for the steering wheel, and a piece of a broom-handle or curtain-pole may be used for the shaft (Figs. 5 and 6). Bore a hole in the inner edge of cross-piece C (Fig. 6) for a pocket for the end of the shaft to fit in; fasten a board in the inner end of the hood framework (H, Fig. 5), and notch its upper edge to support the upper end of the shaft.

Figure 6 shows the method for connecting the steering wheel shaft with the wheels. Cut cross-piece I a trifle shorter than the distance between rails A, and bore a hole through its center for the end of the shaft to fit in; then bore a hole of equal size through a block (J), and nail this block to strip I so the two holes are over one another (Fig. 6). By driving a screw through an edge of strip I, and another through an edge of block J, strip I will be fastened securely to the shaft. Screw a screweye into one end of strip I, and another into the under side of each of the two rails A (Fig. 6); then attach a rope or chain at the center of its length, to the



screweye in I, pass the ends through the screweyes in rails A, and tie to screweyes screwed into axle G near the ends (Fig. 4). The lengths of the rope or chain ends must be such that when cross-piece I is turned to the position shown in Fig. 6, the left fore wheel will turn in, and when turned halfway around the other way, the right fore wheel will turn in.

The hood may be covered with tin, stovepipe, canvas or cardboard. Cover the radiator front with screen wire, and tack narrow strips of tin around the edge of the wire for a binding (Fig. 7).

Good headlights are made from lard pails (Fig. 8). Nail a pair of brackets like K, to the hood, and nail the pails to them.

When you have completed your pushmobile give it a couple of coats of paint; putty nail holes, cracks, and joints before you apply the second coat of paint.

**HANDY THINGS FOR SCHOOL.**

The strap and handle in Fig. 1 requires a strip of canvas 3 inches wide and 24 inches long, folded in half lengthwise, and sewed along the side edges. Get a belt-buckle and sew one end of the strap to it. Finish off the other end of the strap, and punch holes one-half inch apart for a distance of 8 or 10 inches to stick the buckle pin through. The handle is a parcel handle (Fig. 3), one of which you will probably find about the house. Fasten it to the strap with pieces of tape passed around the hooks and the strap, and sewed.

Denim, burlap, cretonne and canvas are good materials to use for book bags. You can make your bag of whatever proportions you want. However, the bag illustrated in Fig. 4 is of ventilated proportions—14 inches wide and 11 inches deep, and you will want yours of this size, I believe. Fig. 5 is a pattern for cutting, with

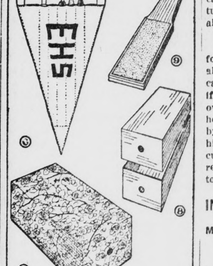


every necessary measurement marked upon it. After marking out the piece, cutting it out, and folding where indicated by dotted lines, sew the edges with strong linen thread. Then turn the bag inside out to bring the seams inside. Bind the edges of the flap with braid, and make a shoulder strap of two thicknesses of the same material, sewing together strap along edges.

Fig. 6 shows a unique pencil case made in the form of a pennant. Prepare two pennants 8 inches long and 5 inches wide, using flannel of your school colors, with the initials of your school cut out of flannel and sewed to one face of one pennant. Place the pair of pennants together, and sew along the two long edges. Then with chalk mark off six parallel lines ½ inch apart, along the center of each face of the sewed together pennants, to locate pencil and pen-holder pockets, and stitch along these lines. The triangular pocket that is left at each side of the pen and pencil pockets form holder for eraser.

A good pencil box can be made out of a candy box covered with cretonne or other material (Fig. 7). Punch a hole through both the cover and box at one end (Fig. 8), before putting on the cretonne covering. This opening provides a handy means for slipping pencils and penholders into the box without removing the cover.

A sandpaper block like that in Fig. 9 is handy for quickly rubbing down



the cardboard, or hold it in place by means of rubber bands. The use of rubber bands makes it an easy matter to slip out the piece of sandpaper when you want to replace it with another piece.

### BANK OF ENGLAND.

The Bank of England is not a government institution, as is popularly supposed. It was projected by William Paterson, a Scotch merchant, to meet the difficulties experienced by William in raising supplies for the war against France. Forty merchants subscribed £500,000 towards the sum of £1,200,000 to be lent to the government at 8 per cent, in consideration of the subscribers being incorporated as a bank.

**His View of It.**

"I wish," said the head of the department, "to let some of my clerks go."

"Why?"

"I have nothing for them to do."

"Huh," said Senator Graball, "that's queer reason for wanting to let clerks go."

**What Happened.**

Prof.—What happened to Babylon?

Fresh—It fell.

Prof.—What happened to Tyre?

Fresh—It was punctured.

### PENNY FINANCIAL BAROMETER.

The cent is the barometer of business, and it is interesting to note that during financial depression a large number of these coins accumulate in the treasury. Even a big storm or a strike will cut down the number of pennies in circulation, for the penny-spending public is indoors, or else forced to save for "rainy days" that threaten. It is a sign of prosperity when large numbers of pennies are in circulation.

**Only Once.**

"Were you ever a favorite son?"

"Only once," replied Senator Sorghum. "When I was a little boy a man patted me on the head and said 'Sonny, you may be president some day.'"

**Two of a Kind.**

"I am a self-made man," declared the bank president. "I began as errand boy and worked up."

"That's nothing," said the eggs, started in a room over a bank and worked my way down."

# SAWDUST AS BASIS OF FUEL

### Los Angeles Man Confident He Has Solved One of the Problems of the World.

George Van Buren Huff, known as "The Sawdust King," because during the war he organized the O. K. Sawdust company and utilized the waste matter from lumber yards of Los Angeles, has invented a process for fuel which he says will jolt the gasoline situation. By means of a still, the old moonshine variety, he says, he can force turpentine and a high-power distillate from the sawdust. He has already cornered 7,000 tons of sawdust and will begin operations at once.

So certain is Mr. Huff of his discovery that he has applied for a patent on the process. He further offers to purchase the whisky stills and the moonshiners' outfits which the government has confiscated. These, he says, can be utilized to make the fuel and the turpentine.

**World's Greatest Silver Mine.**

In the district of Potosi in Bolivia is the greatest silver mine the world has known, and the production of gold and silver since 1553 has been estimated at more than $2,000,000,000. The silver has been placed at not less than 30,000,000 kilograms out of a total of 48,800,000 kilograms for the whole of Bolivia. The great metalliferous mountain of Cerro Gordo de Potosi is 18 miles in circumference and about 15,000 feet high, and its conical top has been pierced by more than 5,000 openings for silver. Bolivia's recent silver yield has ranged from 80,000 to 150,000 kilograms (2,500,000 to 4,800,000 fine ounces) a year.

**Inviting Battle.**

"Bob Hawley's married his cook."

"Yes, he'd rather fight than eat."—Judge.

### DENTAL MISFORTUNE.

No one would suspect the Princeton Telegraph of boosting Grand river as a fishing resort, yet this request is printed in the current issue. "Anyone who is fortunate enough to catch fish in the Grand river is requested to look carefully and see if the catch is wearing a new set of false teeth. If found, please return to a resident of Mercer who had the misfortune to lose his newest set of teeth while wading in the river."—Kansas City Times.

# West Indian Animals of Old

An expedition of American scientists have just returned from a trip of exploration in the West Indies, where they made many remarkable discoveries. It has been generally supposed that the thousands of islands, many of them very small, in this general group were raised from the sea at some period long past. The scientists found many fossils, however, which show that the islands were once populated with many animals larger than any living today. Some of these are of the rodent type which flourished in remote geological times. The question is, how could these animals have found their way to the islands far out at sea? It is calculated that they lived about 100,000 years ago. It is supposed, therefore, that the West Indies, as we know them, were once connected with the mainland or were parts of a great continent with mountains and rivers, and the widely separated islands are mere fragments of the original body.—Boys' Life.

**Explained.**

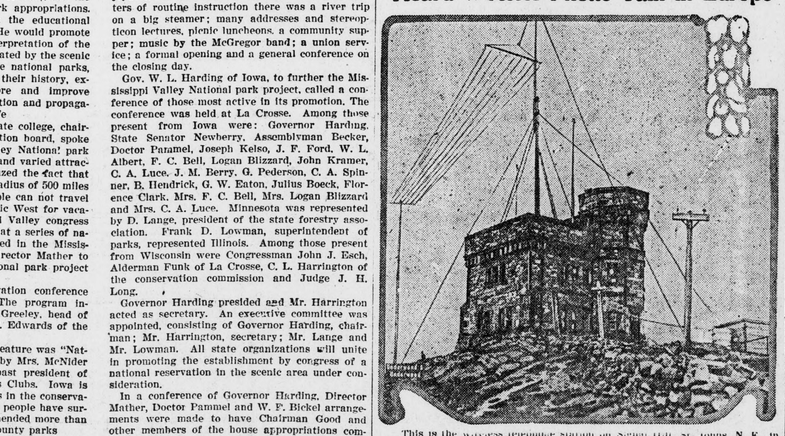
"Waiter, this coffee is nothing but mud." "Yes, sir; it was ground this morning."

**Went at Full Speed.**

"Has Dick traveled much?"

"I should say so. He's been through two fortunes."—Boston Transcript.

# Heard Wireless Phone Talk in Europe



This is the wireless telephone station on Signal Hill, St. Johns, N. F., in which operators recently heard a wireless phone conversation that was being carried on in Europe.

### POPE POSES FOR THE MOVIES

**Pontiff Amused as Photographer Takes Groups and "Close-Ups" in Vatican Grounds.**

Rome.—For the first time in history a pope has posed for the motion picture camera.

Not only was permission granted for the filming of scenes in the Lourdes chapel grounds, but Pope Benedict took a leading part, posing first with various groups and then for "close-ups," and expressing much amusement at the persistence of the American photographers, who went within four feet of the pontiff and snapped him smiling into the camera.

This occurred after the pope had celebrated mass for the visiting American Knights of Columbus in the open vatican gardens and had given holy communion personally to each knight. Vatican officials were amazed that the pope appeared in these scenes for about 20 minutes, and which proved the most complete pictures ever taken of vatican ceremonies.

**Reading When Drowsy.**

To read or study when tired or drowsy is to strain the eyes to a dangerous degree, writes W. M. Curhart in Public Health. Avoid eyeing study whenever possible. If you are using your eyes by artificial light be sure the light does not shine directly into the eyes, and try to have it come from behind and to the left side so as to avoid the harmful glare.

### KNEW HE HAD OTHER WIFE

**Man's Second Choice Asks to Go to Jail With Husband, Saying She Loves Him.**

Baltimore, Md.—"We love each other dearly; send us to jail together. Please don't separate us," pleaded Mr. and Mrs. James M. Moon to Magistrate Johannsen.

Moon, who admitted to detectives that he is a bigamist, was arrested for alleged desertion of his first wife and four children in Sommerville, Ga., several years ago. Wife No. 2 is being held as a witness.

Moon said he met his second wife, Miss Lillie House of Chattanooga, Tenn., while on a visit there and after their marriage spent his time equally betweeen his two wives. His first wife was ignorant of his second marriage, he said, but his second wife knew of his former marriage.

Some 60,000,000 pounds of cotton are grown in Peru annually.

### Says Hooch Ate Away Boil.

Hammond, Ind.—One thing for which the hooch made in the Calumet region is valuable has been discovered by Capt. Thomas Downey of the Indiana Harbor police. He raids three or more moonshine stills a week and says he knows whereof he speaks. He has been afflicted with boils and accidentally spilled some confiscated hooch on one of the boils. Pain stopped and the boil was eaten away by the fiery liquid